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AZ CORP COMMISSION
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April 21, 2011

Arizona Corporation Commission

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Docket Control
Arizona Corporation Commission
1200 W. Washington St.
Phoenix, AZ 85007

DOCKETED BY
<i>[Signature]</i>

Re: *Southwest Transmission Cooperative, Inc. Marana to Sandario Rebuild Project;*
Docket No. L-00000CC-11-0127-00161; Case No. 161

Dear Sir or Madam:

Enclosed for filing are 25 copies of the following:

1. The Direct Testimony of Charles Walling; and
2. The Direct Testimony of Brian Lindenlaub.

Very truly yours,

GALLAGHER & KENNEDY, P.A.

[Signature of Michael M. Grant]

By:

Michael M. Grant

MMG/plp
15169-17/2725998
Enclosures

cc (w/enclosures): The Honorable John Foreman, Attorney General's Office (delivered)

Original and 25 copies filed with Docket
Control this 21st day of April, 2011.

1 **BEFORE THE ARIZONA POWER PLANT**
2 **AND TRANSMISSION LINE SITING COMMITTEE**

3 IN THE MATTER OF THE APPLICATION
4 OF THE SOUTHWEST TRANSMISSION
5 COOPERATIVE, INC., OR ITS ASSIGNEES,
6 FOR A CERTIFICATE OF ENVIRONMENTAL
7 COMPATIBILITY FOR THE MARANA TAP TO
8 SANDARIO TAP TRANSMISSION LINE
9 REBUILD PROJECT LOCATED IN PIMA
10 COUNTY, ARIZONA

Docket No. L-00000CC-11-0127-00161

Case No. 161

11 **Direct Testimony of**

12 **Charles Walling**

13 **on Behalf of**

14 **Southwest Transmission Cooperative, Inc.**
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1 **Q. Please state your name and business address.**

2 A. My name is Charles Walling and my business address is 1000 South Highway 80,
3 Benson, Arizona 85602.
4

5 **Q. By whom are you employed and in what capacity?**

6 A. I am the Manager of Engineering for Sierra Southwest Cooperative, Inc. Sierra
7 Southwest is a nonprofit cooperative which is affiliated with Southwest Transmission
8 Cooperative, Inc. ("SWTC" or the "Cooperative"). It supplies various personnel and
9 other support services to SWTC.
10

11 **Q. Please give the Committee a brief description of your educational background and**
12 **work experience.**

13 A. I received a Bachelor of Science Degree in Electrical Engineering from New Mexico
14 State University in 1977. I am a registered professional engineer in the State of Arizona.
15 During the course of my career, I have been employed by two electric utilities with duties
16 including the design and project management of electric power plants and high-voltage
17 transmission lines and substations. As Manager of Engineering for Sierra Southwest, I
18 am responsible for the design and construction of all substation and transmission line
19 projects for SWTC.
20

21 **Q. What is the purpose of your testimony?**

22 A. I am testifying in support of the Cooperative's Application for a Certificate of
23 Environmental Compatibility ("Application") for the Marana Tap to Sandario Tap
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1 Rebuild Project (the "Project"). My testimony will cover the basic components of, and
2 SWTC's need for, the Project. Brian Lindenlaub of Westland Resources, Inc. will
3 discuss the environmental aspects of the Project in his testimony.
4

5 **Q. Please describe SWTC.**

6 A. SWTC is a nonprofit transmission cooperative owned by its member distribution
7 cooperatives. Those distribution cooperatives are, in turn, owned and controlled by the
8 members they serve at retail. SWTC has five Arizona Class A member nonprofit
9 distribution cooperatives that deliver power at retail to several rural areas of the State.
10 Class A member Trico Electric Cooperative, Inc. ("Trico") serves portions of Santa Cruz,
11 Pima and Pinal Counties. Sulphur Springs Valley Electric Cooperative, Inc., Duncan
12 Valley Electric Cooperative, Inc. and Graham County Electric Cooperative, Inc. serve
13 primarily the Cochise, Greenlee and Graham County areas. Mohave Electric
14 Cooperative, Inc. furnishes power at retail in Mohave County. SWTC owns and operates
15 a power delivery system that schedules and transmits power at wholesale into these areas
16 served by its members and others. SWTC owns about 620 miles of transmission line
17 facilities and 22 substations. The Cooperative's transmission system also interconnects
18 to other utilities. Some of its facilities are jointly owned with the Western Area Power
19 Administration ("WAPA"), Arizona Public Service Company, Salt River Project and
20 Tucson Electric Power ("TEP"). As part of the Network Service Agreement among
21 SWTC, the Arizona Electric Power Cooperative, Inc. ("AEPCO")—which is the
22 cooperatives' power supplier—and the Class A members, SWTC is required to construct
23
24

1 or acquire all transmission facilities necessary to reliably deliver electrical power from
2 AEPCO to those Class A member systems.

3
4 **Q. Please describe the Project.**

5 A. SWTC will rebuild the 11.98-mile existing 115 kilovolt ("kV") Marana Tap to Sandario
6 Tap Transmission Line (the "Project") using an enhanced design that will accommodate
7 both the current and future needs of SWTC's Class A member distribution cooperatives.
8 The rebuild begins at the existing WAPA Saguaro to Rattlesnake 115 kV Transmission
9 Line just south of the intersection of Trico Marana Road and North Trico Road. From
10 there, the Project proceeds to SWTC's Marana Substation and then parallels North Trico
11 Road to its junction with SWTC's existing Sandario 115 kV Transmission Line located
12 about one mile south of Manville Road. As part of the rebuild, all of the existing
13 structures will be replaced (but with fewer structures) in order to support the new, heavier
14 conductor. The new conductor will be non-specular and the existing shield wire will also
15 be replaced with an optical ground wire.

16
17 **Q. Why is the Project needed?**

18 A. The Project is needed to support electric system growth, as well as SWTC's ability to
19 accommodate system failures (i.e., first contingency scenarios as studied under the North
20 American Electric Reliability Corporation Planning Standards criteria), without any
21 unnecessary disruption of service. The existing transmission line was constructed in
22 1961 and its conductor has not been upgraded in the past 50 years. The existing line is
23 currently at capacity and, under certain conditions, would be unable to transmit additional
24

1 loads without failure should an outage occur elsewhere on the system. Currently, there
2 are several outage scenarios on the interconnected transmission system that could
3 overload this line. For example, if either of SWTC's Apache to Butterfield 230 kV or the
4 Butterfield to Pantano 230 kV transmission segments experience an outage, this line will
5 overload. In addition, there are three other scenarios associated with failures on TEP's
6 system that would overload this line as well. These include the loss of its Pinal West to
7 South 345 kV line; the loss of the Springerville to Greenlee 345 kV line; and the loss of
8 the Springerville to Vail2 345 kV line. The rebuild and upgrade project we propose here
9 will address and resolve these contingencies.
10

11 **Q. Please summarize the steps SWTC went through to determine the need for the**
12 **Project.**

13 A. SWTC conducted studies using a model of the interconnected transmission system in
14 Southeast Arizona assuming 2011 loads. Based on the results of those studies, we
15 identified—as I've discussed—several outages on the interconnected system that would
16 overload this line.
17

18 **Q. Did SWTC study different routes for the Project?**

19 A. No. The existing line has been there for 50 years and continues to be a necessary element
20 of SWTC's system. It just needs to be upgraded in that same location for the reasons I've
21 discussed.
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1 **Q. What is the construction timetable for the Project?**

2 A. SWTC expects to begin construction by the fourth quarter of this year or the first quarter
3 of 2012. We estimate the Project will be sequenced into service starting in mid-2012.
4

5 **Q. Please describe the notice steps SWTC took in relation to the Application.**

6 A. SWTC caused to be mailed a copy of the Notice of Hearing—certified, return receipt
7 requested—to representatives of the affected areas of jurisdiction as defined in A.R.S.
8 § 40-360.1. We also caused to be published notice of the hearing in the *Arizona Daily*
9 *Star* and a copy of the affidavit of publication is attached to this testimony as
10 Exhibit CW-1. Finally, SWTC posted signs on April 5, 2011 concerning the hearing.
11 Four were posted facing east/west at the intersections of North Trico Road and Trico
12 Marana Road, as well as North Trico Road and Manville Road, and three were posted
13 every 3-4 miles facing north/south along North Trico Road.
14

15 **Q. Please summarize your conclusions and recommendations on the SWTC Marana to**
16 **Sandario Rebuild Project.**

17 A. The rebuild project is needed because the existing line is currently at capacity and, as I've
18 discussed, under several conditions is unable to transmit additional loads without failure.
19 As Mr. Lindenlaub will testify, rebuilding the line also has very minimal environmental
20 impacts. SWTC requests that the Committee grant and the Commission confirm a
21 Certificate of Environmental Compatibility.
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1 **Q. Does this conclude your testimony?**

2 A. Yes, it does.

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EXHIBIT CW-1

TUCSON NEWSPAPERS

Tucson, Arizona

STATE OF ARIZONA)
COUNTY OF PIMA)

Debbie Capanear, being first duly sworn deposes and says: that she is the Legal Advertising Representative of **TNI PARTNERS, commonly known as TUCSON NEWSPAPERS**, a General Partnership organized and existing under the laws of the State of Arizona, and that it prints and publishes the Arizona Daily Star, a daily newspaper printed and published in the City of Tucson, Pima County, State of Arizona, and having a general circulation in said City, County, State and elsewhere, and that the attached

Legal Notice

was printed and published correctly in the entire issue of the said Arizona Daily Star on each of the following dates, to-wit: march 29, 2011

Debbie Capanear

Subscribed and sworn to before me this 29 day of
march, 2011

Silvia H Valdez
Notary Public



SILVIA H. VALDEZ
Notary Public—Arizona
Pima County
Expires 12/15/2013

My commission expires _____

TNI AD NO. 7449848

NOTICE OF HEARING

A PUBLIC HEARING WILL BE HELD before the Arizona Power Plant and Transmission Line Siting Committee ("Committee") regarding the Application of Southwest Transmission Cooperative, Inc. ("Applicant") for a Certificate of Environmental Compatibility authorizing the Marana Tap to Sandario Tap Transmission Line Rebuild Project ("Project") in Pima County, Arizona. The hearing will be held at the Hotel Tucson City Center, 475 North Granada Avenue, Tucson, Arizona 85701. The hearing will begin at 9:30 a.m. on May 3, 2011 and continue at 9:30 a.m. on May 4, 2011, if necessary. The hearing will adjourn at approximately 5:00 p.m. Additional hearing days, if necessary, will be noticed on the Project and Arizona Corporation Commission ("ACC") websites. The Applicant's Project website can be found at www.azgt.coop/marana-to-avra-valley-transmission-line-rebuild-project. The ACC website is: www.azcc.gov/AZ_Power_Plant/LineSiting-Calendar.asp.

PUBLIC COMMENT WILL BE TAKEN DURING THE HEARING AT THE DISCRETION OF THE CHAIRMAN OF THE COMMITTEE.

The Project involves the rebuilding of the existing Marana to Sandario 115 kV transmission line along the same route it has occupied since 1961. The transmission line rebuild begins at the existing WAPA Saguaro to Rattlesnake 115 kV transmission line just south of the intersection of Trico Marana Road and North Trico Road. From there, the upgrade proceeds to the Applicant's Marana Substation and then parallels North Trico Road to its junction with the Applicant's existing Sandario 115 kV line located approximately one mile south of Marville Road.

Complete maps, along with more detailed textual descriptions of the proposed routes, are available in the Application itself and on the Project website. The Application, including detailed maps of the proposed Project, is on file with the Docket Control Center of the Arizona Corporation Commission, 1200 West Washington Street, Suite 108, Phoenix, Arizona 85007.

Depending on the issues raised and the number of intervenors appearing during the hearing, the Committee may deem it appropriate at some point to recess the hearing to a time and place to be announced during the hearing, or to be determined after the recess. These dates and places will be posted on the Project and ACC websites. At the discretion of the Committee, such resumed hearings may be held at a date, time and place designated by the Committee or its Chairman.

NOTE: NOTICE OF SUCH RESUMED HEARING WILL BE GIVEN. PUBLISHED NOTICE OF SUCH RESUMED HEARING IS NOT REQUIRED.

Each county and municipal government and state agency interested in the proposed Project and desiring to become a party to the proceeding, shall, not less than ten (10) days before the date set for hearing, file with the Director of Utilities, Arizona Corporation Commission, 1200 West Washington Street, Phoenix, Arizona 85007, a notice of its intent to be a party.

Any domestic, non-profit corporation or association, formed in whole or in part to promote conservation of natural beauty, to protect the environment, personal health or other biological values, to preserve historical sites, to promote consumer interests, to represent commercial and industrial groups or to promote the orderly development of the area in which the Project is to be located and desiring to become a party to the certification proceeding, shall, not less than ten (10) days before the date set for hearing, file with the Director of Utilities, Arizona Corporation Commission, 1200 West Washington Street, Phoenix, Arizona 85007, a notice of its intent to be a party.

The Committee or its Chairman, at any time deemed appropriate, may make other persons parties to the proceedings.

Any person may make a limited appearance at the hearing by filing a statement in writing with the Director of Utilities, Arizona Corporation Commission, 1200 West Washington Street, Phoenix, Arizona 85007, not less than five (5) days before the date set for hearing. A person making a limited appearance shall not be a party or have the right to present testimony or cross-examine witnesses.

This proceeding is governed by Arizona Revised Statutes ("A.R.S.") §§ 40-360 to 40-360.13 and Arizona Administrative Code Rules R14-3-201 to R14-3-220 and R14-3-113. No substantive communication, not in the public record, may be made to any member of the Committee. The written decision of the Committee shall be submitted to the Arizona Corporation Commission pursuant to A.R.S. § 40-360.07. Any person intending to be a party before the Arizona Corporation Commission must be a party to the certification proceedings before the Committee.

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1 **BEFORE THE ARIZONA POWER PLANT**
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3 IN THE MATTER OF THE APPLICATION
4 OF THE SOUTHWEST TRANSMISSION
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6 FOR A CERTIFICATE OF ENVIRONMENTAL
7 COMPATIBILITY FOR THE MARANA TAP TO
8 SANDARIO TAP TRANSMISSION LINE
9 REBUILD PROJECT LOCATED IN PIMA
10 COUNTY, ARIZONA

Docket No. L-00000CC-11-0127-00161

Case No. 161

11 **Direct Testimony of**

12 **Brian Lindenlaub**
13 **WestLand Resources, Inc.**

14 **on Behalf of**

15 **Southwest Transmission Cooperative, Inc.**
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1 **Q. Please state your name and business address.**

2 A. Brian S. Lindenlaub and my business address is 4001 East Paradise Falls Drive, Tucson,
3 Arizona 85712.
4

5 **Q. Mr. Lindenlaub, by whom are you employed and in what capacity?**

6 A. I am a partner/principal at WestLand Resources, Inc., ("WestLand") Engineering and
7 Environmental Consultants in Tucson, Arizona.
8

9 **Q. Please provide the Committee a brief description of your educational background**
10 **and work experience.**

11 A. I have a Bachelor of Science Degree in Geological Engineering from the University of
12 Missouri—Rolla, as well as a Bachelor of Science Degree in Fisheries and Wildlife from
13 the University of Missouri—Columbia. I have been providing environmental consulting
14 services—with a speciality in environmental permitting and compliance—since 1994.
15 My focus since 1997 has been primarily on the Clean Water Act ("CWA"). I have been
16 the senior project manager on a number of Section 404 permitting efforts (both
17 nationwide and individual permits) and I have considerable experience with all aspects of
18 that permitting process: 404(b)(1) alternatives analyses; Section 7 Endangered Species
19 Act ("ESA") consultation; compliance with Section 106 of the National Historic
20 Preservation Act ("NHPA"); National Environmental Policy Act ("NEPA")
21 documentation (both Environmental Assessments and Environmental Impact
22 Statements); and development of compensatory mitigation projects. In addition, I am the
23
24

1 staff technical lead on issues related to stormwater compliance for construction activities
2 and industrial facilities.
3

4 **Q. What is WestLand?**

5 A. WestLand was founded in 1997 and is a team of engineers, scientists, regulatory
6 specialists, environmental planners, landscape architects and archaeologists who provide
7 environmental and engineering consulting services throughout the Southwest. WestLand
8 specializes in the technical and procedural requirements necessary for compliance with
9 NEPA, CWA, ESA and the NHPA. WestLand's staff of environmental professionals has
10 an extensive and diverse range of expertise in preparing a wide variety of environmental
11 documents, including NEPA environmental impact statements and assessments, as well
12 as public participation plan development and implementation.
13

14 **Q. What is the purpose of your testimony?**

15 A. On Southwest Transmission Cooperative's ("SWTC") behalf, I will testify about the
16 scoping process that was employed during the planning of the Marana to Sandario rebuild
17 project (the "Project") and the environmental and cultural resources processes which
18 were used to comply with the NEPA guidelines. These processes led to the conclusions
19 reached in the detailed analysis and engineering plans for the Project. Further, as the
20 principal in charge of the Project, I am familiar with all aspects of the Project and the
21 studies performed by WestLand in association with its environmental review under
22 NEPA.
23
24

1 **Q. Please explain the process and activities that led to the conclusions outlined in the**
2 **Application.**

3 A. The U.S. Department of Agriculture ("USDA") Rural Utilities Service ("RUS") is
4 serving as the lead federal agency for the Project. WestLand was retained by SWTC to
5 assist with documentation of the Project's potential effects as required by RUS
6 regulations under 7 Code of Federal Regulation ("CFR") § 1794. The environmental
7 process was conducted under the guidance of RUS Bulletin 1794A. While detailed
8 public scoping is not required by this Bulletin, WestLand and SWTC nonetheless did
9 public scoping for the Project. A public open house was conducted on April 14, 2009 at
10 Roadrunner Elementary School located at 16651 West Calle Carmela, Marana, Arizona
11 85653. SWTC personnel and WestLand staff members were present during the open
12 house to provide information. Initial project scoping letters were also sent on behalf of
13 RUS to solicit comments regarding the Project from various federal, state and local
14 agencies, as well as other organizations, on August 14, 2009. When detailed engineering
15 indicated additional poles would be required for the Project, a second scoping letter was
16 sent to these same agencies on December 16, 2010. In addition, project maps and
17 informational materials were posted to the SWTC web site to facilitate public access and
18 a telephone number was provided for questions and public input. An account of the
19 notification materials, the process followed and all public comments are included in the
20 Environmental Report ("ER") which is Exhibit B to the Application for a Certificate of
21 Environmental Compatibility (the "Application").
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1 WestLand conducted various environmental studies along the Project alignment,
2 including a Preliminary Jurisdictional Waters Delineation, a Class III Cultural Resources
3 Survey and a Biological Evaluation. These studies were used to evaluate the Project's
4 potential impacts to the human and natural environments.

5
6 **Q. Please describe generally the conditions within the Project area.**

7 A. I will present a Google Earth Flyover at the hearing which will visually display the area.
8 But, to summarize briefly, elevations in the vicinity range from approximately 1,920 to
9 2,170 feet above sea level. The existing line and the Project occur parallel to other
10 existing lines and a road within an area that consists largely of active and abandoned
11 agriculture. There are no perennial or intermittent drainage systems, springs, wetlands or
12 any other special aquatic sites within or near the Project. All drainage features on or in
13 the vicinity of the Project are ephemeral and surface water occurs on the site only during
14 and shortly after precipitation events of sufficient size to cause flow.

15
16 Existing land uses on and adjacent to the Project include a mixture of fallow and
17 cultivated agricultural fields, dirt and paved roads, a system of concrete and earthen
18 irrigation canals that are no longer in use and associated berms. About 7.5 miles of the
19 11.98-mile-long project alignment is located on or adjacent to cultivated or fallow
20 agricultural lands. The remaining portion of the alignment contains sparse vegetation
21 generally consistent with Sonoran desert scrub.

1 **Q. Has a NEPA document been prepared for the Project?**

2 A. Yes. As I mentioned, the ER is Exhibit B to the Application. Because the Project will be
3 funded by RUS-approved loans, NEPA documentation is required.

4
5 **Q. Has the RUS reviewed the ER for the Project?**

6 A. It is my understanding that the RUS is currently in the process of reviewing the ER
7 prepared for the Project.

8
9 **Q. The Committee evaluates several factors to determine the compatibility and**
10 **suitability of projects and I'd like you to discuss those. First, is the Project**
11 **compatible with existing and proposed land use development?**

12 A. Yes. It is fully consistent with land use development, because it is a rebuild of an
13 existing transmission line that has been in place at this location since 1961.

14
15 **Q. Will the Project adversely impact any threatened or endangered species?**

16 A. The ER discusses these issues in Sections 3.6 and 4.7. To summarize, all species listed
17 on the U.S. Fish and Wildlife Service's Pima County list were determined to have limited
18 or no potential to occur within the Project area, because their known ranges are outside
19 the area and/or they are found in habitats dissimilar to those occurring within the Project
20 area.

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1 **Q. WestLand also conducted cultural resources evaluations. Please describe those**
2 **studies.**

3 A. WestLand completed a Class I study for the Project as well as a full Class III pedestrian
4 survey.

5
6 **Q. Will the Project adversely impact any cultural resources?**

7 A. Section 4.9 of the ER outlines the potential impacts to identified cultural resources.
8 WestLand believes that the Project has the potential to adversely affect five Arizona State
9 and NRHP-eligible historic properties (AZ AA:11:12, AZ AA:11:107, AZ AA:11:108,
10 AZ AA:11:109, and AZ AA:11:135) and recommends that the Project's planning and
11 design avoid these sites. SWTC has confirmed it will follow this recommendation, as
12 well as our recommendations in the Monitoring and Discovery Plan, during construction
13 activities.

14
15 **Q. Exhibit E-2 to the Application contains four photographic simulations. What**
16 **conclusions did you reach about the Project's aesthetic and visual impacts?**

17 A. WestLand concluded that impacts to viewers would be low to moderate—particularly
18 given the substantial impacts which are already present in the Project area. The Project
19 parallels two other existing transmission lines, which also reduces visual impacts.
20 Further, while the new structures will be 10 to 20 feet taller than the structures they are
21 replacing, the total number of structures is being reduced from 115 to approximately 96.

1 **Q. Mr. Lindenlaub, please summarize your conclusions and recommendations**
2 **concerning the compatibility and suitability of the Project.**

3 A. The environmental and cultural resources studies performed for the Project were
4 conducted thoroughly by independent resource specialists. Relevant issues were
5 researched and agencies and the public were broadly and, in many cases, individually
6 solicited for comments. The studies performed meet the standards for compliance with
7 relevant regulations, including RUS federal regulations for NEPA compliance,
8 Section 106 of the NHPA, as amended, and Section 7 of the ESA. WestLand concluded
9 that the impacts resulting from the Project will be less than significant for all resources
10 and the Project is compatible with local land management plans. Some mitigation will be
11 implemented to ensure that possible impacts can be avoided and/or minimized to the
12 maximum extent possible. I would recommend the Committee issue, and the
13 Commission confirm and approve, a Certificate of Environmental Compatibility for the
14 Project.

15
16 **Q. Does this conclude your testimony?**

17 A. Yes.
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